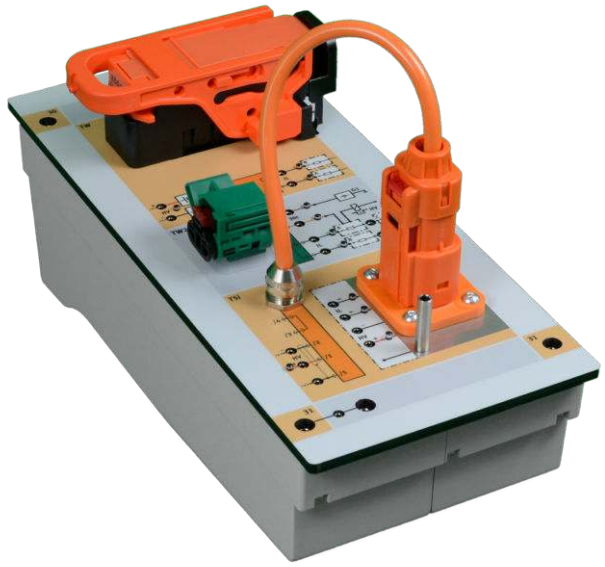
ITEM NO. 12 045 010 - TP-LAB

TP-Lab HV Connector Trainer 4.0

Three HV connectors, one learning system. TW, TW2, and T5i as actual hardware on a front panel. Diagnostic routines just like in the vehicle—safe to use with < at 40 V. **15 structured tasks** From voltage readings to shielding logic.



AT A GLANCE

FORM FACTOR
Console Housing · Also for DIN-A4 Mounting Frames

VOLTAGE
Low Voltage < 40 V · Scale 10:1

LEARNING UNITS
15 Tasks · approx. 7.5 hours of class time

HANDBOOK
176 Pages · Theory · 15 tasks · Solutions

E-LEARNING
Optional

LEVEL



In-depth 93 % **Specialist** 7 %

Why This Trainer?

01
Three actual connector types — TW, TW2, T5i

High voltage Service Disconnect (TW), low voltage Service Disconnect (TW2), and high voltage connectors (T5i) — fully functional, both mechanically and electrically.

02
Safe Measuring — Low Voltage < 60 V

Scale 10:1: 37.5 V on the trainer = 375 V in the vehicle. All currents < 5 mA. Hands-on training without HV PPE, without safety clearance.

03
Diagnosis Just Like in a Real Workshop

Measure the pilot line, calculate the voltage divider, check the shielding resistance—just like on a real high-voltage vehicle.

04
Pick up what they'll assemble later

Not replicas, but the exact same connectors as in the vehicle. Pilot voltage divider with genuine 75 Ω resistors.

Technical data

DIMENSIONS (W × D × H) **133 × 297 × 190 mm**	WEIGHT **about 2 kg**	POWER SUPPLY **Low Voltage < 40 V**
CURRENT DRAW **1–3 A**	MEASURING SOCKETS **20 × 2 mm + 5 × 4 mm**	EMISSION SOUND PRESSURE **< 70 dB(A)**

CE UKCA RoHS EN

15 Tasks — Structured Learning Path

NO.	TASK	DIFFICULTY	TIME
1	(TW) High voltage battery	★★☆☆	30 min
2	(TW) Interlock	★★☆☆	25 min
3	(TW) Design and Safety Concept	★★★☆	30 min
4	(TW) Understanding the System Service Disconnect	★★★☆	30 min
5	(TW) Enable function Service Disconnect	★★★★	40 min
6	(TW2) Measurements at Terminal 30c and Interlock	★★☆☆	35 min
7	(TW2) Ohmic Measurements Interlock	★★★☆	30 min
8	(TW2) Structure and Safety Concept	★★★☆	25 min
9	(TW2) Understanding the System Service Disconnect	★★★☆	30 min
10	(TW2) Enable function Service Disconnect	★★★☆	30 min
11	(T5i) Measurements Interlock (pilot line)	★★☆☆	25 min
12	(T5i) Measurements for high voltage	★★★☆	30 min
13	(T5i) Shielding Measurements	★★☆☆	20 min
14	(T5i) Design and Safety Concept	★★☆☆	30 min
15	(T5i) Understanding High-Voltage Connectors	★★★☆	30 min

Components and Scope of Delivery

ONBOARD COMPONENTS

Console housing, table, or DIN-A4 mounting frame	
Original manual service disconnect connector, Orange	
Original manual service disconnect, green, with 30c	
Original orange connector	
All three are connected to the pilot line	
Shielding measurement point, measurement points 2 and 4 mm	
High-voltage lines, orange; 4-mm connectors	
Power Supply Connectors	2 ×
Green Connector Release Tool	

SCOPE OF DELIVERY

- TP-Lab HV connector trainer (12 045 010)
- Green protective cover with padlock
- Black and red jumper plugs
- Green unlocking tool with lanyard
- Operating Manual, EU Declaration of Conformity

RECOMMENDED ACCESSORIES

Power Supply Unit TS15	**12 050 015**
Digital multimeter Fluke 175	**16 062 014**

Relation to the Curriculum

UK IMI · ST0033	**US** ASE Education Foundation	**CA** Red Seal RSOS

Examples — in total the tasks are mapped to more than 90 curricula.